Bts Europa AG Aluminium tank User Manual

EEC Directive 2014/68/EU (PED)

EUROPEAN PRESSURE EQUIPMENT DIRECTIVE

CUSTOMER INFORMATION FOR

SCUBA (Self Contained Underwater Breathing Apparatus) Cylinders in Aluminum Alloy AA6061 (All Aluminum not Composite)

CUSTOMER I USER INFORMATION (Rev.07)

This information is issued to guide customers and users towards safe trouble free performance and long life from their BtS high pressure gas cylinder used in SCUBA applications. The information is not exhaustive albeit an attempt has been made to give sound advice for care and maintenance, but as the potential for abuse is limitless guidance against all aspects of

mis-use is not possible. It is nevertheless issued to protect against the most reasonably foreseeable hazards and predictable abuses. The clauses below relate to addressing the relevant Pressure Equipment Directive2014/68/EU (PED) Clauses of the Essential Safety Requirements.

PED ANNEX 1, 1. GENERAL:

Clause 1.1

1. Checks should be made to ensure that the female threads in the cylinder neck are undamaged and clean. In the case of parallel threads that the counter bore or angled chamfer is clean, undamaged and scratch free, that the top neck face is similarly clean, undamaged and free from scratches. O-rings fitted to these valves should be undamaged, made from compatible material, and of adequate cross section to completely fill the cylinder neck counter bore when the valve is inserted.

2. All valve types purchased by customers for fitting into CE marked cylinders must be PED compliant. It should be noted that valves fitted for Nitrox use must have suitable oxygen compatibility. Valves should be covered with certificates of compliance showing the material type & number, thread type and mechanical tests performed and the results obtained.

3. With regard to the assembly of the Scuba equipment, this can be achieved under the PED where the user assemblies it him/herself for his/her own use. Unless the user has sufficient skill, equipment & knowledge this is not recommended. If the equipment is assembled by a third party, this third party must comply with the requirements of the PED. This compliance requires the third party to "CE" mark the completed assembly under the Authority of a PED Notified Body & issue Customer Information & a PED Declaration of Conformity.

4. Care should be taken to ensure that valves fitted to cylinders have the correct thread type, that the threads are full form, undamaged and free from burrs. The sealing face of parallel valves should be scratch free

5. Care should be taken to ensure that valves & cylinders are free of grease & hydrocarbons when valves for Nitrox service are to be fitted.

6. Valve torques for Aluminum alloy cylinders are listed in the table below.

Valves should be torqued into the cylinders using calibrated torque wrenches with correctly fitting engagement heads.

The torque's applied to brass, chromium plated brass or aluminum valves should be in accordance with the following standard ENISO 13341: 2010.

VALVING TQRQUES FOR ALUMINIUM ALLOY CYLINDERS

Taper Valve Stern Size	TORQUE Nm		
	MINIMUM	MAXIMUM	
		Without Cylinder Neck Reinforcement	With Cylinder Neck Reinforcement
25E	95	110	110

Parallel Valve	TORQUE Nm		
Stern Size	MINIMUM	MAXIMUM	
M18	85	100	
M25	95	130	

7. High pressure cylinders shall only be filled by a competent person at a proper & approved filling station.

Clause 1.2

1. Cylinders supplied to customers without valve should be stored in a dry covered area, where damage to the cylinder is not a risk. Cylinders taken from the storage area should be checked to ensure internal dryness. In addition, should cylinders be taken from stores with the intention to fill the cylinders with Nitrox, the internal cleanliness of the cylinder (the valve to be fitted) shall be verified as oxygen clean by a competent person before filling.

2. "Location close to heat sources causes the internal pressure to rise, that could result in damage to the cylinder or rupture. Linder no circumstances shall a filled Cylinder experience a temperature of more than 60 Degrees Centigrade or empty cylinder experiences a temperature of more than 120 Degrees Centigrade. If such an event occurs the cylinder shall immediately be withdrawn form service, discharged & advice sought from an Authorised Re-Test Centre or the manufacturer of the cylinder. If there is any possibility of a filled cylinder experiencing a temperature in excess of 60 Deg. C, consideration should be given to fitting the SCUBA equipment with a suitable pressure relief device.

3. Avoid locating in direct sunlight or where the sun is directed through windows or clear glass roofing. Keep charged cylinders cool. Filled cylinders that become warm (up to 60 Degrees centigrade) could result in breathing difficulties due to the temperature of the contained gas.

4. Do not use caustic solutions, acids, chemical strippers, sanding discs, files coarse abrasive belts, papers or pads to remove paint as this may damage the cylinder - metal removal, corrosive attack, pitting may occur that may not be apparent, & could affect the long term integrity of the cylinder.

5. Cylinders should not be repainted and heated unless done professionally under tightly controlled conditions after consultation and written agreement from BtS.

However repainting using air drying paints at ambient temperature may be performed if necessary to restore appearance and protection.

6. In the event of a cylinder being gouged, indented, or damaged in any way no attempt should made to disguise or conceal the damage. Such damage needs to be assessed by a competent person representing a re-test station. Where damage to a charged cylinder has occurred, the cylinder should be discharged.

Clause 1.3

1. On no account should anyone attempt to loosen or remove a valve from a charged (gas filled) cylinder. Additionally on no account should anyone remove a valve from an empty cylinder unless they have the specific authority to do so, and the necessary knowledge and equipment to avoid damage to either the valve or the cylinder.

2. BtS gas cylinders supplied for SCUBA are designed specifically for that purpose and must not be used under any circumstance for any other purpose whatsoever & must only be used by properly trained personnel.

3. A cylinder containing gas under pressure could be dangerous if used for anything other than its intended purpose. All SCUBA cylinders must be used with a breathing regulator so as to protect the user from the full pressure of gas inside the cylinder.

4. Do not alter or modify this gas cylinder, to do so may cause harm or danger to the user or individuals. Alterations or modifications invalidate the original design and approvals given by regulatory authorities. The pressure containment of the cylinder may be seriously impaired by unauthorised modification.

5. Do not attempt to saw, drill holes or weld attachments onto the cylinder.

6. Do not discharge a cylinder in an uncontrolled manner as this may result in the pressure jet causing injury &

risk to a diver through reduced breathing potential.

7. Do not completely empty a SCUBA cylinder & leave the valve open as this may allow the ingress of moisture into the cylinder, which could facilitate corrosion.

8. Ensure that a SCUBA Cylinder is only filled with dry, oil free air or Nitrox from an approved storage source or via a correctly serviced & functioning compressor, ensuring that if the cylinder is to be filled with Nitrox, the cylinder/valve assembly has been verified as oxygen clean by a competent person.

9. Should a SCUBA cylinder leak after filling, as shown by a stream of bubbles leaving the cylinder after immersion in a tank of water, under no circumstances should the cylinder be used, even if the bubbles are small.

& infrequent. In such cases, the cylinders must be depressurized & taken to an Authorised Re-Test Centre for

examination/testing by a competent person.

10. The stamped markings on a cylinder are important for the servicing and filling of the cylinder and must not be altered or changed.

11. Do not stand or store gas cylinders for anything but short periods of time on concrete floors, wet decking or wet wooden racks or stillages. Cylinders should be stored on dry surfaces.

12. Do not throw the cylinder, or drop it from a height as it may cause damage to the cylinder & or/valve. Indents & other damage may result from impacts, which in turn could impair the integrity of the cylinder.

13. Do not throw the cylinder onto a fire for it may rupture violently.

14. Gas cylinders should not be used for target practice. Do not throw darts or fire arrows, air guns or more powerful weapons at gas cylinders. To do so is irresponsible and could result in a serious incident.

15. Do not attempt to crush squeeze or run over a gas cylinder. Do not use it as a battering tool, hammer, doorstop, load support, as a stop to prevent closure of scissors action machinery, jacks or other equipment, or for any other purpose other than for which it was made.

16. Do not fill this cylinder with oxygen enriched air (Nitrox) unless the cylinder & valve have been verified as oxygen clean & compatible & that the cylinder /valve have not been used since this verification was given by a competent person.

17. Cylinder & valve assemblies that have been verified as oxygen clean for the purposes of filling with Nitrox, shall be clearly marked & identified as such.

18. If cylinders are to filled with Nitrox, the cylinders must clearly be marked as containing Nitrox.

BTS EUROPA AG Klosterhofweg 96 Moenchengladbach 41199 Germany +49 2166 67541 10 Info@BtS-eu.com WWW.BTS-EU.COM